

August 13, 2002

DuPont SHE Excellence Center
Attn: Edwin L. Mongan III
1007 Market Street
Wilmington, DE 19898

Dear Mr. Mongan:

The Office of Pollution and Toxics is transmitting EPA's comments on the robust summaries and test plan for 2,2'-azobis(2methylbutanenitrile), posted on the ChemRTK HPV Challenge Program Web site on April 19, 2002. I commend E.I. du Pont de Nemours & Company and Akzo-Nobel Chemicals, Inc. for their commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed Comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that you advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the HPV Challenge Program Web site "Submit Technical Questions" button or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director
Risk Assessment Division

Enclosure

cc: W. Sanders
A. Abramson
C. Auer
M. E. Weber

**EPA Comments on Chemical RTK HPV Challenge Submission:
2,2'-Azobis(2-methylbutanenitrile) (AMBN)**

SUMMARY OF EPA COMMENTS

The sponsors, E.I. du Pont de Nemours and Company and Akzo-Nobel Chemicals, Inc., submitted a test plan and robust summaries to EPA for 2,2'-azobis(2-methylbutanenitrile) (CAS No. 13472-08-7) dated March 6, 2002. EPA posted the submission on the ChemRTK HPV Challenge Web site on April 19, 2002.

EPA has reviewed this submission and has reached the following conclusions:

1. Analog Justification. The submitter proposes to use the data on 2,2'-azobis(2-methylpropanenitrile) (AIBN) to address ecotoxicity and a number of health endpoints for AMBN. Based on the close structural similarity and concordant effects data, EPA agrees with use of data on AIBN to address the AMBN data gaps.
2. Physicochemical and Environmental Fate Data. EPA agrees with the submitter's proposal to conduct tests/estimations for all the physicochemical and environmental fate endpoints except for boiling point and biodegradation.
3. Health Effects. All appropriate SIDS-level tests have been addressed with data on AMBN or the analog AIBN.
4. Ecological Effects. Adequate data are available on the analog AIBN to address the endpoints for fish and invertebrates. However, the algal test on AIBN is inadequate because the concentrations used were too low and out of range for the necessary toxicity endpoint.

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

**EPA COMMENTS ON THE 2,2'-AZOBIS(2-METHYLBUTANENITRILE (AMBN) CHALLENGE
SUBMISSION**

Test Plan

Analog Justification

The submitter proposes to use data on the analog AIBN to address the ecotoxicity and repeated-dose, reproductive/developmental endpoints for AMBN. AMBN and AIBN are very similar in chemical structure. The only functional groups present in these molecules are the nitrile (-CN) moiety and the azo (N=N) moiety. The nitrile and azo moieties are bonded to the same carbon atom, which also bears two alkyl groups. The submitter supports the use of the analog AIBN by comparing data on acute and genetic toxicity, dermal and eye irritation, and dermal sensitization, which show no significant differences. Although no comparable systemic toxicity data are available, AIBN and AMBN are expected to be metabolized similarly according to the submitter. Given the similar molecular structure, comparable effects data, and expected similar metabolic pathway, EPA agrees that AIBN is an acceptable analog for AMBN.

Chemistry (melting point, boiling point, vapor pressure, water solubility, and partition coefficient).

The submitter's approach to these endpoints is acceptable for the purposes of the HPV Challenge Program. EPA agrees that a boiling point determination is not practicable due to the thermal instability of AMBN.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity).

The submitter's approach to these endpoints is acceptable for the purposes of the HPV Challenge Program. EPA agrees that the biodegradation data on AIBN adequately address this endpoint for AMBN.

Health Effects (acute toxicity, repeat dose toxicity, genetic toxicity, and reproductive/developmental toxicity).

Adequate test data are available for the acute and genetic toxicity endpoints for AMBN. The repeat dose and reproductive/developmental endpoints for AMBN are adequately addressed by data on the analog AIBN. However, the submitter needs to supply a robust summary for the developmental toxicity endpoint. HPV Challenge Program guidance indicates that when a study addresses multiple endpoints, a robust summary is needed for each endpoint.

Ecotoxicity (fish, invertebrates, and algae).

For algae, a more definitive test should be conducted either on the analog AIBN or the sponsored chemical AMBN. In general practice, the highest exposure level should be 100 mg/L or at the chemical's aqueous water solubility limit.

Specific Comments on the Robust Summaries

No comments.

Followup Activity

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.